

Application No.: 10/089,312

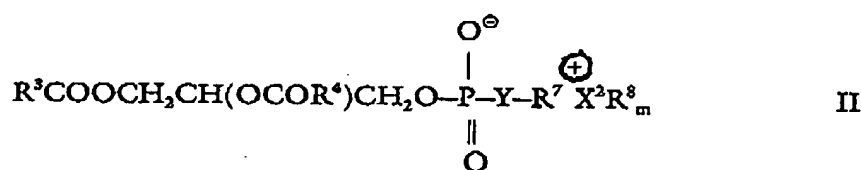
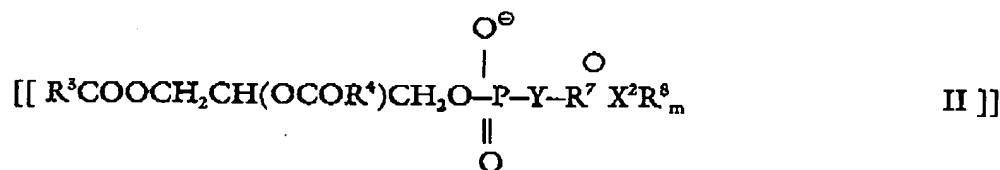
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## AMENDMENTS TO THE CLAIMS

1 - 37 (canceled)

38 (currently amended). Method of [I] eliciting an IgA response in a mammal comprising administering orally to the mammal a composition comprising a nucleic acid operatively encoding an antigen complexed with or entrapped within liposomes formed from liposome forming components comprising

- a) at least one cationic compound
- b) zwitterionic phospholipid consisting of one or two compounds having the general formula II



in which  $\text{R}^3$  and  $\text{R}^4$  are the same or different and are a group of the formula  $[[ \text{CH}_3(\text{CH}_2)_e(\text{CH}=\text{CH}-\text{CH}_2)_g ]]$   $\text{CH}_2(\text{CH}_2)_f(\text{CH}=\text{CH}-\text{CH}_2)(\text{CH}_2)_e$  in which  $f$  is 0 to 6, each of  $e$  and  $g + 3f$  are 0 to 23 and  $e + g$  is in the range 12 to 23;

$\text{R}^7$  is a  $\text{C}_{1-8}$  alkanediyl group;

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Y is -O- or a bond;

X<sup>2</sup> is N, P or S;

m is 3 when X<sup>2</sup> is N or P and is 2 when X<sup>2</sup> is S; and

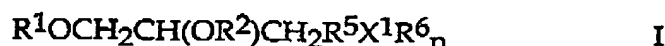
the groups R<sup>8</sup> are the same or different and are selected from the group consisting of hydrogen, C<sub>1-8</sub> alkyl, C<sub>6-11</sub> aryl or aralkyl, or two or three of the groups R<sup>8</sup> together with X<sup>2</sup> form a saturated or unsaturated heterocyclic group having 5 to 7 ring atoms;

in which at least 25% by mole of the individual liposome forming components have a transition temperature of more than 40°C,

wherein the molar ratio of cationic compound to zwitterionic phospholipid is in the range 1:1 to 1:10,

whereby an IgA response to the said antigen is generated.

39 (previously presented). A method according to claim 38 in which the cationic compound has the general formula I,



in which R<sup>1</sup> and R<sup>2</sup> are the same or different and are a group of the formula CH<sub>3</sub>(CH<sub>2</sub>)<sub>a</sub>(CH=CH-CH<sub>2</sub>)<sub>b</sub>(CH<sub>2</sub>)<sub>c</sub>(CO)<sub>d</sub> in which b is 0 to 6, a and c are each selected from 0-23 and (a + c + 3b) is in the range 12-23 and d is 0 or 1;

R<sup>5</sup> is a bond or a C<sub>1-8</sub> alkanediyl group;

X<sup>1</sup> is N, P or S;

n is 3 where X<sup>1</sup> is N or P and is 2 where X<sup>1</sup> is S; and

the groups R<sup>6</sup> are the same or different and are selected from the group consisting of hydrogen, C<sub>1-8</sub> alkyl, C<sub>6-12</sub> aryl and aralkyl, or two or three of the

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groups  $R^6$  together with  $X^1$  form a saturated or unsaturated heterocyclic group having 5 to 7 ring atoms.

40 (previously presented). A method according to claim 39 in which  $R^1$  is the same as  $R^2$  and  $R^3$  is the same as  $R^4$ .

41 (previously presented). A method according to claim 40 in which  $R^1$  and  $R^2$  represent a different group to  $R^3$  and  $R^4$ .

42 (previously presented). A method according to claim 40 in which  $R^1$  and  $R^2$  represent a different group to  $R^3$  and  $R^4$ , in which in  $R^1$  and  $R^2$ ,  $b$  is 1, and in which  $(a + c)$  is in the range 10 to 20.

43 (previously presented). A method according to claim 38 in which the liposome forming materials comprise two zwitterionic phospholipids in each of which  $Y$  is O,  $X^2$  is N, and the groups  $R^8$  of the first phospholipid are all hydrogen and the groups  $R^8$  of the second phospholipid are all  $C_{1-14}$  alkyl, and  $R^7$  is  $(CH_2)_h$  in which  $h$  is 2 or 3.

44 (previously presented). A method according to claim 43 in which the groups  $R^3$  and  $R^4$  of the said first phospholipid are the same and each is a group in which  $f$  is 1 and  $(e + g)$  is in the range 10 to 20.

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45 (previously presented). A method according to claim 44 in which in the groups  $R^3$  and  $R^4$  of the said second phospholipid are the same and each is a group in which  $f$  is 0 and  $e+g$  is in the range 15 to 23.

46 (previously presented). A method according to claim 45 in which the said second zwitterionic phospholipid is selected from the group consisting of distearoylphosphatidylcholine, distearoylphosphatidylethanolamine, dipalmitoylphosphatidylcholine and dipalmitoylphosphatidylethanolamine.

47 (previously presented). A method according to claim 38 in which the cationic compound is cholesterol-3 $\beta$ -N-(dimethylaminoethyl) carbamate.

48 (previously presented). A method according to claim 38 in which the nucleic acid is entrapped within the liposomes.

49 (previously presented). A method according to claim 38 in which the mammal is a human.

50 (previously presented). A method according to claim 38 in which in the groups  $R^3$  and  $R^4$  of at least one phospholipid are the same.

51 (previously presented). A method according to claim 50 in which the mammal is a human.

52 (previously presented). A method according to claim 51 in which at least 50% by mole of the individual liposome forming components have a transition temperature of more than 40°C.

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53 (previously presented). A method according to claim 50 in which there are two phospholipid compounds and the groups  $R^3$  and  $R^4$  in each phospholipid are the same.

54 (previously presented). A method according to claim 38 in which at least 50% by mole of the individual liposome forming components have a transition temperature of more than 40°C.

55 (previously presented). A method according to claim 39 in which in the groups  $R^3$  and  $R^4$  of at least one phospholipid are the same.

56 (previously presented). A method according to claim 55 in which the mammal is a human.

57 (previously presented). A method according to claim 55 in which there are two phospholipid compounds and the groups  $R^3$  and  $R^4$  in each phospholipid are the same.